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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS

AND INTERFERENCES

Ex parte TAKASHI MAEDA,
YUJI KAWABUCHI,
TAKAHIRO HAGA
and TOMIJI HOSOTSUBO

Appeal 2008-3647
Application 10/656,147
Technology Center 1700

Oral Hearing Held: August 13, 2008

Before EDWARD C. KIMLIN, THOMAS A WALTZ, and
CATHERINE Q. TIMM, Administrative Patent Judges

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Wednesday, August 13, 2008, commencing at 2:40 p.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson, Notary Registration No. 269770, Notary Public.

THE USHER: Calendar number 26. Mr. Andres.

JUDGE KIMLIN: Good afternoon, Mr. Andres.

MR. ANDRES: Good afternoon, your Honors. May it please the board, my name is Charles Andres. I am here on behalf of The Appliance Motor Company, Limited. We appreciate the opportunity to have our appeal heard. Thank you.

JUDGE KIMLIN: You are more than welcome. You might want to spell your name for the transcriber.

MR. ANDRES: A-N-D-R-E-S, Charles.

I would like to start off by expanding one of the arguments that we made that there is no motivation to combine the references.

In Claims 10 and 11, there is a feature in both of the methods that there is a charging a constant current density increasing voltage until the voltage exceeds 2.5 volts up to 3.5 volts and then discharging at constant current density.

This feature is not described or suggested by the primary reference, Maeda, and in Anani, which the office has relied on for a charging scheme, there is at column 5, lines 47 through 54, a paragraph which states, "The capacitor portion of the electrical energy storage device was scanned," and it goes on and talks about the scanning.

And then it further goes on to say, "It is important to note that this material's combination would yield a capacitance much higher than

realized from a conventional carbon double layer capacitor. This is due, in part, to the fact that the potential of the nickel electrode does not very significantly during the potentiostatic sweep."

And so in the case of Maeda, you have a carbon-carbon capacitor and the office is trying to graft this method of Anani onto the carbon-carbon capacity of Maeda. First of all, Maeda only needs to go up to 2 volts and gets very good results in terms of the capacitance.

JUDGE TIMM: Doesn't Maeda disclose going up to 3 volts?

MR. ANDRES: Maeda does disclose the possibility of going up to 3 volts. All the examples of Maeda are at 2 volts, however.

And so if Maeda at 2 volts or at 3 volts, even, gets very good capacitor capacitance without resorting to this constant current charging scheme, then why would one of ordinary skill in the art be motivated to bring in this constant current charging scheme of, say, Anani when Anani specifically talks about the fact that part of what makes Anani so good is that instead of having a carbon-carbon capacitor, it has a carbon-metal capacitor.

JUDGE TIMM: Well, doesn't Anani give -- provide some evidence that it is known to charge these things with a constant current, these types of capacitors?

MR. ANDRES: Anani provides, I think, some evidence that it is known to charge capacitors that have a -- two different materials for the electrodes at a constant current.

I wouldn't necessarily broaden what the reference teaches to its known generally to do this and even if it were known, there is still no motivation to bring this into Maeda because Maeda gets such good results, why would anyone be motivated to alter?

JUDGE TIMM: Does Maeda tell us how he is charging the capacitor?

MR. ANDRES: Maeda merely says he charges to 2 volts, as I recall, in the experimental.

JUDGE TIMM: So we really don't know whether it is a variable current or a constant current.

MR. ANDRES: That is correct.

JUDGE TIMM: There is a disclosure in column 11 of a measurement of discharge capacity which talks about constant current discharge.

MR. ANDRES: Right, but that still doesn't mean constant current charge.

I would like to make one more argument concerning Claim 10, if that's okay.

Elaborating on our not suggesting all the features of the present invention, the present invention, the presently claimed inventive embodiment in Claim 10, has an activated carbon fiber with pores that consist essentially of micropores having an average pore radius of .2 to 1 nanometer.

Although Claim 10 starts out with the term "comprising," the specific step, step 2, Roman numeral II, employs the term "consisting essentially of," which means that the carbon fibers in this case can't have an average pore radius outside of the stated range of .2 to 1 nanometer unless that somehow does not alter the composition.

JUDGE TIMM: Do you make this argument in your brief or your reply brief?

MR. ANDRES: We did not exactly make this argument, no, but it falls under the heading of a general argument we made that not all the features of the present invention are described or suggested and so I thought it would be appropriate to -- to expand upon that.

JUDGE TIMM: It is really not something the examiner has been able to address.

MR. ANDRES: I see. I understand your point. Thank you.

In Maeda, at column 4, lines 22 through 26, there are two different types of pores as shown by the two different types of pore radii. There is a radii of .4 to 1.5 nanometers and a second pore type that has a radii of 3.6 to 6 nanometers.

In this -- both of these are required in the fibers of Maeda as shown at column 8, lines 42 through 48, where it is described that when the ratio of the pore surface area of the larger pores to the pore surface area of the smaller pores is less than .01, it is likely that charge capacity is not increased for specific surface area.

Further, if one examines the examples of Maeda, one can see, for instance, at table 1, which is at columns 13 and 14, that as this surface area -- as these pores that are very large increase in terms of the percentage of the composition of Maeda, that the capacity of the capacitor also increases, so there is a direct correlation.

There is also some correlation between the surface area increasing, as well, and so there is probably some interplay between increasing the surface area and increasing the pore size.

However, in the current specification, at page 32, last paragraph, it is described that the use of an active carbon fiber with an

average pore radius of over 1 nanometer makes it difficult to attain the effective increasing charge and discharge capabilities.

And at table 1, page 41 of the originally filed specification, when the average pore radius increases from .82 nanometers to 1.05 nanometers, the capacity percent increase drops to zero.

And so one of ordinary skill in the art would understand from reading Maeda that the pores of having an average pore radius of 3.6 to 6 nanometers must be present and that as you increase the number of these pores, the capacity of the resulting capacitor increases.

In contrast, present Claim 10 has the radius of the pores limited to an average radius of .2 to 1 nanometer and going beyond this hinders the goal of increasing charge and discharge capabilities as shown by example one versus comparative example one at page 41 of the originally filed specification.

That's it. Do you have any further questions?

JUDGE TIMM: No further questions.

JUDGE WALTZ: No, I have none.

MR. ANDRES: Thank you very much.

JUDGE KIMLIN: Thank you for coming.

Whereupon, the proceedings at 2:50 p.m. were concluded.